

MPR 7120.3
REVISION E
EFFECTIVE DATE: July 25, 2005
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MARSHALL PROCEDURAL REQUIREMENTS

ED01

DATA MANAGEMENT, PROGRAMS/PROJECTS

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DOCUMENT HISTORY LOG

Status (Baseline/ Revision/ Canceled)	Document Revision	Effective Date	Description
Baseline		5/14/99	This document expands program/project documentation and data control to all elements of data management, including identification/definition, preparation and disposition and incorporates the control requirements of MSFC-P05.1.
Revision	A	8/16/99	Revised to call out MWI 7120.5, in paragraphs P.4 and 2.1.2
Revision	B	3/6/00	Deleted reference to canceled document MMI 2210.3 and revised paragraph 3.4.1.2 relative to limited rights data.
Revision	C	7/10/00	Paragraphs P.4.h and 3.4.1.2 changed the applicable Export Control documents from MWI 2190.1 to MPD 2190.1 and MPG 2190.1.
Revision	D	10/28/2004	Complete revision. Updated URL. Changed approval signature. The revision combines MPG 7120.3 and MWI 7120.5, addresses ACI implementation, and includes an expanded control process. Changed "MPG" to "MPR" throughout document. Changed title from "Marshall Procedures and Guidelines" to "Marshall Procedural Requirements". Revised document throughout so that all requirements state "shall" to satisfy CAITS action #04-DA01-0387 and to update font of document to Times New Roman. Added guidance on data tracking and accounting. Added guidance on secure data storage and handling in an electronic system.
Revision	E	7/25/2005	P.2 Applicability - added "(including basic & applied research portfolios as defined in NPR 7120.5) to 1 st sentence; Revised to change NPR 1620.1, Security Procedural Requirements to NPR 1600.1 NASA Security Program Procedural Requirements throughout document; added NPR 7120.5 to applicable doc list; correct NPR 1450.1 to NPR 1450.10 throughout document; 2.10 clarified paragraph to state The <u>Master List Custodian(s)</u> shall create the organization's Master List(s) and update it each time a document is added, revised, or canceled; 3.4.13 - 1 st sentence reads, The PM shall assign the Master List Custodian(s) and ensure the location of the Master List is posted to the MSFC Integrated Document Library under "Multiprogram/Project and Program/Project Specific Documents."; add 3.4.16.3 para number; 3.5.2 delete "and disposition"; para 4 change to: "Records shall be identified in accordance with MPR 1440.2. These records shall be retained and dispositioned in accordance with NPR 1441.0..."; editorial corrections; grammatical correction in Z.1.4.9

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PREFACE

P.1 PURPOSE

This Marshall Procedural Requirements (MPR) directive establishes the responsibilities and procedures for identifying/defining, preparing, controlling, and dispositioning all program and project data.

P.2 APPLICABILITY

This MPR is applicable to all Marshall Space Flight Center (MSFC) organizations that manage programs, projects (including basic and applied research portfolios as defined in NPR 7120.5), and activities. Program/project data includes all data required for the definition of the product and the management of the program/project.

P.3 AUTHORITY

- a. NPD 7120.4, "Program/Project Management"
- b. MPD 1280.1, "Marshall Management Manual"

P.4 APPLICABLE DOCUMENTS

- a. NPR 1441.1, "NASA Records Retention Schedules" (NRRS)
- b. NPR 1600.1, "NASA Security Program Procedural Requirements"
- c. NPR 7120.5, "NASA Program and Project Management Processes and Requirements"
- d. MPD 2190.1, "MSFC Export Control Program"
- e. MPD 2210.1, "Documentation Input and Output of the MSFC Documentation Repository"
- f. MPR 1280.4, "MSFC Corrective Action System"
- g. MPR 1420.1, "MSFC Forms Management Program"
- h. MPR 1440.2, "MSFC Records Management Program"
- i. MPR 1600.1, "MSFC Security Procedural Requirements"
- j. MPR 2220.1, "Scientific and Technical Publications"

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- k. MPR 2800.4, “MSFC Operational Readiness Review (MORR) for Center Applications and Web Sites”
- l. MPR 2810.1, “Security of Information Technology”
- m. MPR 5000.1, “Purchasing”
- n. MPR 8040.1, “Configuration Management, MSFC Programs/Projects”
- o. MWI 1280.4, “MSFC Quality System Deficiency Notice System”
- p. MWI 2210.1, “MSFC Documentation Repository Input/Output and Data Management Project Requests”
- q. MWI 7120.2, “Data Requirements Identification/Definition”
- r. MWI 7120.4, “Documentation Preparation, Programs/Projects”
- s. NPR 1450.10, “NASA Correspondence Management and Communications Standards and Style”

P.5 REFERENCES

None

P.6 CANCELLATION

MPR 7120.3D dated October 28, 2004

*Original signed by
Robin N. Henderson for*

David A. King
Director

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DOCUMENT CONTENT

1. DEFINITIONS

1.1 Administratively Controlled Information (ACI). Official information and material, of a sensitive but unclassified nature, which does not contain national security information (and therefore cannot be classified), nonetheless, should still be protected against inappropriate disclosure.

1.2 Applicable Documents. Document called out in the body of a document required to carry out the procedure(s) specified in the document.

1.3 Control Process. Method for receiving, reviewing, approving, revising, canceling, dispositioning, tracking, and maintaining the status of program/project data.

1.4 Controlled Electronic File. The electronic data file, secured under authority of the controlling organization, that is the original full-text file that was authorized through an electronic approval/release system, or the electronic file that has been verified to be identical to the approved original when data was authorized through a hardcopy approval/release process. The controlled electronic file represents the content of the official record, though it may or may not be designated as the official record copy.

1.5 Correct Version. The version that is approved/released by the controlling organization for use. In the case of external documents (e.g., applicable documents), the correct version is the one authorized for use by the organization that invokes the external document.
NOTE: For external documents, the correct version may not always be the current version (e.g., applicable documents invoked on a contract).

1.6 Customer and/or External Documents. Documents, including standards and specifications, that come from an external source and are included as part of the Quality Management System. Examples include military specifications and industry standards.

1.7 Data Management. The timely and economical identification/definition, preparation, control, and disposition of documents and data required by a program, project, or activity.

1.8 Data Procurement Document (DPD). A compilation of all data that describe the data requirements of a particular task or project for contractual efforts.

1.9 Historical Document. Any obsolete or canceled document retained for historical reference.

1.10 Limited Applicability. Applies to marking/using superseded or obsolete documents; documented authority is required for use of previous/obsolete documents.

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1.11 Master List(s). Controlled list(s) of data that identify the correct version authorized for use.

1.12 Office of Primary Responsibility (OPR). The NASA organization with primary responsibility for the content of specific data items or the organization responsible for the process represented by the document. OPR responsibilities may include preparing a document, controlling a document, and/or reviewing the technical content of a document submitted by a contractor or external organization.

1.13 OPR Designee (OPRD). Individual(s) appointed by the OPR who is responsible for a specific data item within his or her area.

1.14 Program/Project Data. Program/project data includes all data required for the definition of the product and the management of the program/project.

1.15 Reference Document. A document used as guidance.

1.16 Repository. A central, accessible location in an organization for storing and controlling documents and data.

1.17 Revision. Any change, modification, or newly edited version of a document.

1.18 Standard Data Requirements Description (DRD). A data requirement that has been identified for repetitive use.

1.19 Uncontrolled Copies. Copies printed from the Master List system or copies of the signed original document

1.20 User. Any person who uses or refers to any document during the performance of a specific task.

2. RESPONSIBILITIES

2.1 The Approval Authority shall assign responsibility to authorize data.

2.2 The Center Data Requirements Manager (CDRM) shall carry out the Center's responsibility for development and maintenance of Center data requirements. The CDRM has the requisite authority to coordinate internal MSFC data requirement activities.

2.3 The Center Export Representative (CER) shall be appointed by the program/project to serve as the focal point within the organization for exports and transfers of MSFC commodities, technologies, and software.

2.4 The Contracting Officer (CO) shall be responsible to ensure that data requirements are properly invoked as contractual documents, shall receive official contract submittal(s) from

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contractor(s), and shall ensure, with the assistance of program/project personnel, that all deliverables are received and accepted in accordance with contract terms and conditions.

2.5 The Contracting Officer's Technical Representative (COTR) shall be responsible for technical management of a specific contract.

2.6 The Data Manager (DM) shall establish and administer the data management activities for a specific program, project, activity, or contract.

2.7 The Data Package Engineer (DPE) shall be responsible for consolidating evaluations, obtaining resolution of comments and issues, and recommending a disposition to the Approval Authority for proposed data.

2.8 The DM Administrator shall be responsible for ensuring a DPE and evaluators are assigned to review data, scheduling and monitoring the control process to ensure that tasks are completed in a correct and timely manner, and for documenting the Approval Authority's decision when there is no control board.

NOTE: When a control board exists, the board Secretariat documents the board/board chairperson's decision. The Receipt, DM Administrator, and Secretariat functions could be performed by one person or distributed between several people, depending on the size of the project or activity.

2.9 The Evaluator, preselected or selected per data item by the Lead Systems Engineer (LSE) and/or DM Administrator, shall provide comments related to the acceptability or unacceptability of proposed data during the evaluation process. Evaluators may be designated as mandatory (response required) or optional.

2.10 The Master List Custodian(s) shall create the organization's Master List(s) and update it/them each time a document is added, revised, or canceled.

2.11 The OPR or OPRD shall identify, prepare, control, and disposition all program/project data in accordance with this MPR and the program or project-specific Data Management Plan (DMP). Where feasible, the nature of a change or revision is identified in the data, the document, or in an attachment. The OPRD shall ensure pertinent background information is provided for the review and approval of data. For nonelectronic documents, the OPRD shall create and maintain distribution list(s) or documented records of distribution, updating as required.

2.12 The Program or Project Manager shall be responsible for ensuring all requirements in this MPR are implemented for their Program/Project.

2.13 The LSE or Representative assigned by Program management (PM) in the Data Management process shall perform a preliminary review of data content and assign the Data Package Engineer and evaluators for the data review.

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2.14 Receipt Personnel shall receive data submittals, perform a format and quality check, ensure that appropriate identification information has been submitted with the data, enter the identification information into the tracking and statusing system, and ensure the data is routed to the appropriate control process.

NOTE: The Receipt, DM Administrator, and Secretariat functions could be performed by one person or distributed between several people, depending on the size of the project or activity.

2.15 The Secretariat shall administer the control board process and act as Secretariat at control board meetings. Responsibilities include creating control board agendas, documenting the control board disposition and implementation actions, obtaining appropriate board concurrence and board chairperson authorization, creating board minutes, and tracking board actions to closure.

NOTE: The Receipt, DM Administrator, and Secretariat functions could be performed by one person or distributed between several people, depending on the size of the project or activity.

2.16 All Users of program/project data shall ensure against unintended use of any previous/obsolete versions in accordance with this MPR and the program/project-specific DMP.

3. PROCEDURE

The required data management functions at MSFC are defined in the following paragraphs.

3.1 Data Management Planning. Effective data management planning is essential to satisfying the required data management functions. The Program/Project Manager shall appoint a Data Manager (DM) during the formulation phase of the program/project to develop and implement program/project data management. The implementation of data management requirements shall be documented in a data management plan in accordance with paragraph 3.1.1.

3.1.1 Data Management Plan. The DM shall develop a DMP during the NPD 7120.4-defined formulation phase of the program/project that describes the implementation of the data management requirements in compliance with the overall program's policies and procedures. The DMP shall be prepared in accordance with the format requirements of MWI 7120.4, "Documentation Preparation, Programs/Projects." The DMP shall be approved and controlled in a documented control system. The plan shall identify/define data requirements, and shall establish preparation, control, and disposition requirements and processes. See sections 3.5.1 and 4 for additional DMP requirements on records and Appendix Z for overall DMP content guidance.

3.2 Identification/Definition. The Program/Project Manager, supported by the DM, shall identify overall data requirements during the formulation phase by reviewing the program/project life cycle to determine needs. Data requirements for NASA program/project activities shall be defined in a Data Requirements List (DRL) in accordance with MWI 7120.2. For acquisitions, data requirements shall be defined in a Data Procurement Document (DPD) in

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accordance with MPR 5000.1 and MWI 7120.2. Programs/projects shall request DRL and DPD control numbers from the CDRM in accordance with MWI 7120.2. The program/project shall assign a document custodian and a control process for each DRL and DPD (see Appendix Z for guidance.)

Each data requirement shall have an OPR and submission/frequency established. For acquisitions, a Data Type shall also be assigned to each data requirement to indicate the level of NASA control to be applied (see MWI 7120.2 for Type 1–5 definitions). For NASA-produced data, it is recommended that a control process be assigned to each data requirement and identified in the DRL (see Appendix Z for guidance).

3.2.1 CDRM. The CDRM shall develop and maintain standard data requirement descriptions, data requirements work instructions, and provide support to the Program/Project Managers and DMs in the application of data requirements. Standard Data Requirements Descriptions are provided at MSFC to ensure that mandatory data requirements (e.g. safety, financial reporting, Federal Acquisition Regulation (FAR)/NASA FAR supplement (NFS) reporting requirements) are applied consistently to MSFC contracts and solicitation packages, and that the latest technical specifications and standards are applied to MSFC contracts. Standard Data Requirement Descriptions are available on the MSFC Data Requirements Management System Web site available on the MSFC Integrated Document Library (MIDL).

3.3 Preparation. The OPRD shall obtain an identification number and prepare data internal to MSFC in accordance with the project-specific DMP and MWI 7120.4. MWI 7120.4 includes requirements for the OPRD to assess and mark data with the appropriate ACI category. The OPRD can confer with a CER as needed to ensure appropriate markings are applied. Contractor-prepared data shall be prepared in accordance with the DRD of the specific DPD. The program/project shall impose appropriate data restriction assessment and marking requirements on all contracts, external task agreements, etc. to ensure that data restriction is identified as part of data preparation.

3.4 Control. Control processes consistent with this MPR and MPD 1280.1 shall be established for each program/project. The control processes shall include provisions for the review and maintenance of each data requirement identified for the program/project. Control process requirements are identified in the following paragraphs. See Appendix Z for control process planning guidance.

NOTE: Control processes for individual documents are not the same as the Design Review process. However, there may be hand-off or overlap between the two processes because data is often delivered at Design Review milestones (see Appendix Z for guidance).

3.4.1 Control Process General Requirements.

3.4.1.1 Each control process shall include the following elements: receipt, evaluation, authorization, dissemination (distribution/availability), and storage of the resulting record. For a simple control process, the same person may perform all elements. For a complex control

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process, several personnel are involved and each element may involve multiple steps.

3.4.1.2 The OPRD shall create proposed revisions by modifying a copy of the controlled electronic file of the latest authorized version. The OPRD shall provide pertinent background information for review and approval of the data.

3.4.1.3 Data shall be reviewed for adequacy prior to issue to perform work.

3.4.1.4 The same control process applied for the original review and approval of data shall be used to review changes or revisions to, and cancellations of, data unless specifically designated otherwise.

3.4.1.5 The Project Manager shall act as the Approval Authority or designate the control board or personnel to act as the Approval Authority for initial approval, subsequent changes or revisions, and cancellations of data prior to issue to perform work.

3.4.1.6 Data authorization shall be captured in accordance with MWI 7120.4 paragraph 6.1.4.

3.4.1.7 For control processes that manage contractor-produced data (provided to NASA in accordance with contract requirements), the control process shall ensure that the CO or COTR transmits the official direction to the contractor related to the disposition of data.

3.4.2 Configuration Management (CM) Control Process. The CM control process shall be used to approve configuration documentation (i.e., requirements, specifications, interface control documents, drawings, etc.) to ensure relationship of documentation and documentation changes to the applicable configuration items. The CM control process shall be implemented in accordance with MPR 8040.1 and the program/project CM Plan. The CM control process can be utilized for NASA, external agreement, or contractor data (Contractor Type 1 or 2 data deliverables can be placed under NASA CM control if designated by the project). The CM process can also be utilized for nonconfiguration documentation if designated by the project. The approval authority associated with the CM control process is a Configuration Control Board (CCB) or a Project Control Board (PCB) that includes CCB authority.

3.4.3 Program/Project Approval Processes. Program/project approval processes shall be established to approve NASA or external agreement nonconfiguration data (e.g., plans, reports, procedures, and task agreements) and contractor Types 1 and 2 data deliverables. The approval authority associated with an approval process can be an individual (e.g., Project Manager or COTR) or a board (e.g., PCB, Document Control Board (DCB), etc.). Multiple data approval processes can be defined for a project or activity to accommodate different kinds of data (i.e., NASA data, external agreement data, and contractor data) and different levels of formality. See Appendix Z for a sample approval process for NASA or external agreement data that require program/project approval and Types 1 and 2 contractor data.

3.4.4 Program/Project Data Acceptance-Review Processes for OPR Controlled Data.

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Program/project data acceptance-review processes shall be implemented for review of NASA or external agreement OPR-controlled data deliverables, contractor Type 3 data, or other project data that does not require approval. The project can designate that the OPR organization can approve nonconfiguration data through their organization's control procedure. The OPR then submits the data to the project as scheduled in the DRL. The project reviews the submitted data for adequacy and accepts the data or provides comments back to the OPR organization.

3.4.5 Scientific and Technical Information (STI) Publications. STI publications shall be documented, numbered, and authorized for publication in accordance with MPR 2220.1. Publication includes presenting a paper at a conference, publishing a Technical Memo, etc. Before STI may be published, MPR 2220.1 requires that a NASA Form (NF) 1676, Data Availability Authorization (DAA) is completed.

3.4.6 Forms Control. Utilization of prescribed forms and authorization of requests for new or revised forms shall be in accordance with MPR 1420.1. Control and use of project-specific forms shall be documented in the DMP.

3.4.7 Correspondence Control. Requirements for NASA correspondence are established in NPR 1450.10. Each Program/Project Manager shall establish correspondence numbering and control processes or shall utilize the processes of the program's/project's managing office. The Program/Project Manager approving correspondence shall ensure that correspondence that captures significant program/project decisions, technical direction, program/project documents, etc. is filed as program/project correspondence records versus administrative correspondence records in accordance with NPR 1441.1 because program/project correspondence records have longer retention and archival requirements.

3.4.8 Data Tracking and Accounting. Configuration status accounting for configuration documentation shall be performed in accordance with MPR 8040.1. Data requirements defined in a DRL or DPD shall be tracked to ensure receipt and to provide status of data expected, received, overdue, etc. For a DRL this tracking is typically performed by DM personnel, and for a DPD it may be performed by DM personnel or by the Contracting Officer (CO)/Contracting Officer's Technical Representative (COTR). Tracking data against the DPD requires that the accounting personnel obtain a copy of the DPD from the CO/COTR and receive copies of all contract modifications to ensure tracking against the latest DPD information. Controlled data shall be accounted for from receipt through implementation, verification, and revision. The personnel administering the control process, the electronic control system, or both together shall capture this accounting. See Appendix Z for guidance on tracking and accounting.

3.4.9 ACI Identification, Marking, and Safeguarding. Processes and procedures for the identification, marking, and safeguarding of ACI shall be established in accordance with NPR 1600.1 and MPR 1600.1. Data shall only be disseminated within the allowances of the data restriction that applies to the data. Identification and safeguarding of ACI shall be integrated as part of the program/project data control processes. The appropriate ACI marking is applied as data is prepared (see paragraph 3.3 Preparation), and MPR 1600.1 states that the originating

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organization or the procuring organization is responsible to assess the data restriction to ensure it is correct. See Appendix Z for implementation guidance related to data restriction assessment and for guidance on implementing secure data storage in an electronic system.

3.4.10 Export Control of Data. Export controls shall be established in accordance with MPD 2190.1. Regardless of whether or not the data is marked as export controlled, MPD 2190.1 specifies that all data exports require authorization by a CER per an MSFC Form 4312.

3.4.11 Control of Limited Rights Data. Controls shall be implemented for proprietary information/property established by the program/project plan and contracts.

3.4.12 Accessibility to Correct Version of Data. Pertinent issues of data shall be accessible at all locations where operations essential to the effective functioning of the program/project are performed. Where previous/obsolete versions or multiple versions have applicability, the intended use of each version (e.g., on the Master List(s), on the document, in a memorandum, task agreement, contracts, etc.) shall be clearly identified.

3.4.13 Master List(s). The PM shall assign the Master List Custodian(s) and ensure the location of the Master List(s) is posted to the MSFC Integrated Document Library under “Multiprogram/Project and Program/Project Specific Documents”. The Master List(s) shall provide, as a minimum, the following five items of information for each item of data listed: (1) unique document number, (2) revision level of the correct version, (3) document title/subject, (4) effective date, and (5) OPR organizational code or proper identification. Identification of access restrictions (e.g. specific ACI category) is highly recommended. The document location, either physical or electronic, at which users retrieve the correct version of the data may be included on the Master List(s). In electronic Master Lists, a direct electronic (hypertext) link to the correct data or its controlling Master List is preferred.

3.4.14 Applicable Documents. The program/project shall ensure availability of the correct version of the applicable documents (first tier) invoked by documents on the Master List. Applicable document information may be provided through a link associated with each document on an electronic Master List or through an overall list of applicable documents. The following information shall be provided for each applicable document: (1) unique document number, (2) revision level of the correct version, (3) document title, and (4) electronic link or physical location where the correct version may be retrieved.

3.4.15 Draft Data. Draft data shall not be included on the Master List(s). A list(s) for draft data should be maintained and be accessible through the control system.

3.4.16 User Responsibility for Utilization of Correct Version/Assurance Against Unintended Use of Obsolete Documents.

3.4.16.1 Users shall verify that the correct version of a document is used in the work being performed by checking the revision status on the Master List.

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3.4.16.2 To ensure against unintended use of any previous/obsolete version of a document, all users shall comply with the following provisions: (1) destroy the document, or (2) mark if retained, e.g., “FOR HISTORICAL PURPOSES ONLY,” “FOR LIMITED APPLICABILITY,” “REFERENCE,” etc. (e.g., on the face of the document, a file cabinet or drawer, a bookcase or shelf, or (3) otherwise suitably identify (e.g., via explanation).

3.4.16.3 Users shall ensure that authority to use versions other than the current version is documented by contractual arrangement, customer agreement, or other authority.

3.5 Disposition. Program/Project Managers, supported by the Data Manager:

3.5.1 Shall establish and document in the DMP the list of Program/Project records and retention schedules per NPR 1441.1, records custodians, locations, and any project-unique records management requirements. If a separate project document is utilized to define records planning, the DMP shall reference this document.

3.5.2 Shall manage all records in accordance with MPR 1440.2.

3.5.3 Shall establish a plan for use of the MSFC Repository in accordance with MPD 2210.1/MWI 2210.1 and ensure a copy of all technical data (e.g., interface control documents, standards, plans, etc.) and Class I Engineering Data (e.g., specifications, drawings, documents, and engineering parts lists) are provided to the MSFC Repository. It is recommended that all program/project permanent records and long-term temporary records, as defined in NPR 1441.1, be provided to the Repository as the records are received or authorized, and agreement made between the program/project and the MSFC Repository that the MSFC Repository serve as the records custodian for those records.

3.5.4 Shall publish or make available documents containing scientific and technical information produced under MSFC sponsorship in accordance with MPR 2220.1. This includes contractor final reports that are required by the FAR to be submitted to the Center for Aerospace Information (CASI). Though much program/project data is technical in nature, all program/project data are not required to be published as STI or submitted to CASI.

3.6 Reporting Program/Project Data Management Deficiencies. Any person may report a deficiency in accordance with MPR 1280.4 and MWI 1280.4.

4. RECORDS

Records shall be identified in accordance with MPR 1440.2. These records shall be retained and dispositioned in accordance with NPR 1441.1, Schedules 7 and 8. The program/project-specific DMP shall establish records planning in accordance with paragraph 3.5.1. All record custodians shall have approved records plans in accordance with MPR 1440.2 with copies of those plans

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submitted to the applicable program/project office. The CDRM shall maintain standard DRDs and logs in accordance with MWI 7120.2.

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5. FLOW DIAGRAM

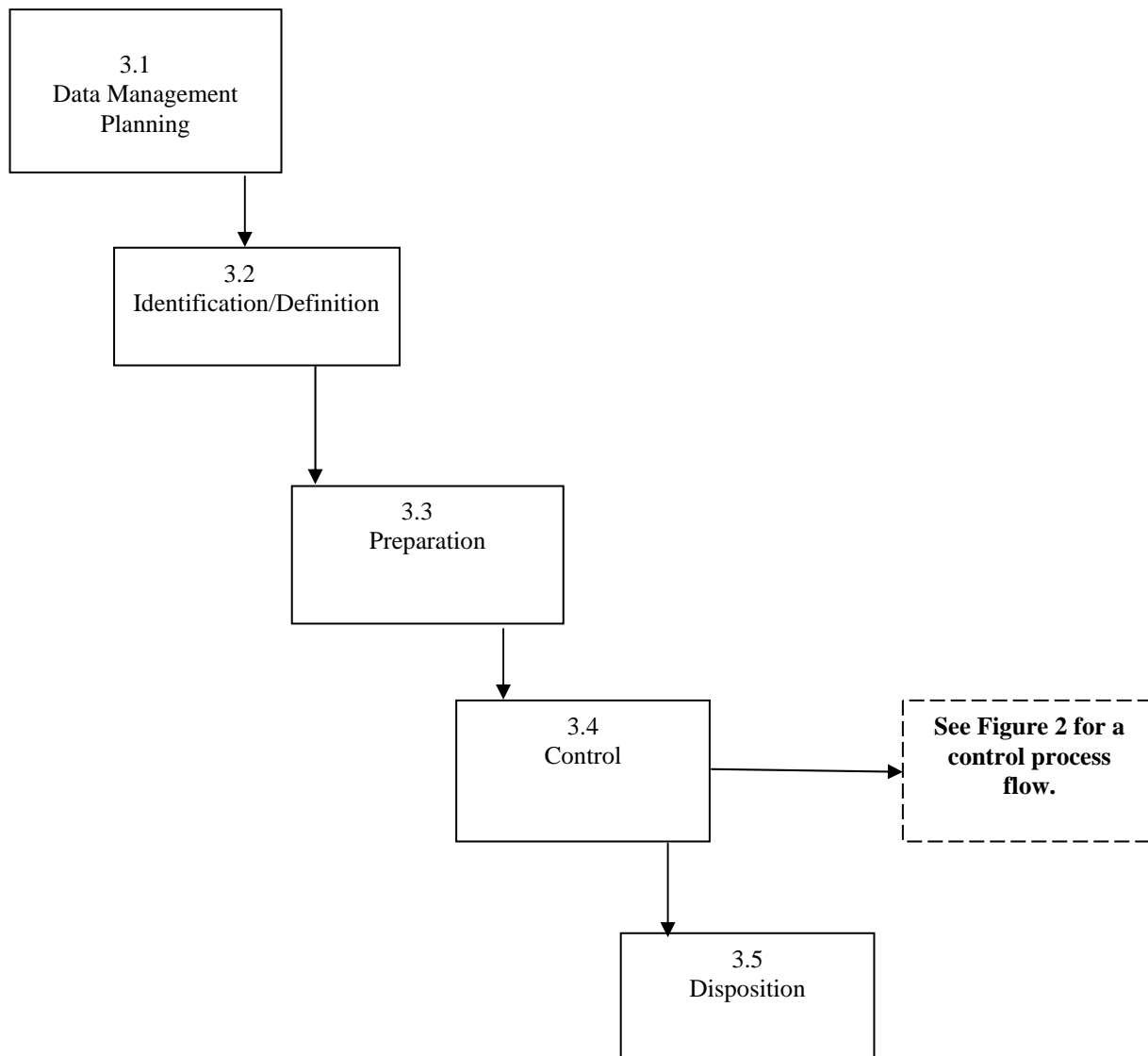


Figure 1. Data Management Flow

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APPENDIX Z – GUIDANCE

Z.1 DATA MANAGEMENT PLAN (Guidance for paragraph 3.1.1)

Z.1.1 The DMP should be prepared to include the contents defined below. For a small project or activity, the DMP may be combined with the project plan as long as the elements identified below are met. While maintaining compliance with MSFC's policies, the plan should be tailored to define the unique elements of the program or project. Elements not applicable to a specific program or project should be addressed.

Z.1.1.1 The plan should define the scope and depth of the project's efforts including management, organization, planning, responsibilities, and the relationship of the data management program to the other administrative and technical organizations. Organizational charts should be included.

Z.1.2 Identification/Definition of Data Requirements. This section should include, as a minimum, a list of data that are needed for the management and execution of the program or project. The data requirements for each task or project should be documented in either a Data Requirements List (DRL) or a DPD. The DRL and DPD should be prepared in accordance with MWI 7120.2. The DMP should include the DRL and/or the DPD number/title/location or provide a link thereto.

Z.1.3 Preparation. This section should describe the formatting and numbering requirements for internal and external data. It should define the program/project unique numbering system. It should also describe the OPRD's responsibilities for designating and marking the appropriate ACI data restriction category on the document and obtaining review of that category by the appropriate CER or contractual representative.

Z.1.4 Control Procedures. This section should include:

Z.1.4.1 Review and approval processes of internal and external data (define the level of control and data types). The Master List location and custodian should be included in this process. The control processes should address all the elements in section 3.4 of this MPR. The steps of the control processes, including the roles and responsibilities associated with each step, should be described in the plan.

Z.1.4.2 Processes to track, deliver, and maintain schedules for external (i.e., contractor, other Centers/agencies, and universities) and internal (MSFC-prepared) data.

Z.1.4.3 The process used for the definition and control of classified material, if applicable.

Z.1.4.4 Control process for program/project-specific forms and data.

Z.1.4.5 Control procedures for informal correspondence (e.g., memos, letters, etc.).

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Z.1.4.6 Configuration control, in accordance with the project-specific Configuration Management Plan.

Z.1.4.7 The process used for the definition and control of ACI as defined in NPR 1600.1 and MPR 1600.1.

Z.1.4.8 Export procedures should be defined in accordance with MPD 2190.1. The program or project-specific actions necessary to carry out the program/project responsibilities in MPD 2190.1 should be detailed in this section. If a separate Export Control Plan is prepared, it should be referenced in this section.

Z.1.4.9 Consistent with the objectives of the program/project, the plan should include a determination of the minimum needs of the U.S. Government pertaining to the use and disclosure of (1) existing proprietary information/property (including software) owned by non-government parties and (2) data or software that is to be generated under the program/project.

Z.1.5 Disposition. This section should describe the program/project implementation of the following elements:

Z.1.5.1 Identification of records, location of records, record custodians, and any project-unique directions to those custodians.

Z.1.5.2 Master list of documents.

Z.1.5.3 Records retention and schedule.

Z.1.5.4 Records archival.

Z.1.5.5 Storage/repository and access.

Z.1.5.5.1 Document filing procedures in accordance with MPR 1440.2.

Z.1.5.5.2 A plan for use of the MSFC Repository in accordance with MPD 2210.1 and MWI 2210.1.

Z.1.5.5.3 The description of the document reference libraries (i.e., electronic, Web-based, drawings, technical, etc.).

Z.1.5.5.4 Process for dissemination of scientific and technical information produced under MSFC sponsorship in accordance with MPR 2220.1.

Z.1.5.6 Record retirement procedures.

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Z.2 MAINTENANCE AND CONTROL OF DRLs AND DPDs (Guidance for paragraph 3.2 Identification-Definition).

Data Requirements are either controlled as part of the DM Plan or as a separate document. Therefore, the document custodian of the DRL is either the DM Plan OPRD or, if the DRL is a separate document, an OPRD and control process should be assigned (just like other project documents).

DPDs are incorporated into the contract as an attachment along with the Statement of Work (SOW). Therefore, the contract modification process is required to change the DPD after contract award. The official DPD is the version in the contract and the CO is the official keeper of the contract. It is recommended that the program/project, with agreement and knowledge of the CO and COTR, assign a document custodian for the DPD who ensures that the DPD electronic file is maintained current. The document custodian would obtain the contract award version of the DPD, work with the CO and COTR to prepare any future updates, receive copies of the official contract modifications, and ensure that any contract modifications related to the DPD are incorporated into the electronic DPD file with appropriate contract modification number references, etc. The document custodian responsibility should be determined and assigned immediately after the contract is awarded.

Z.3 ASSIGNMENT OF CONTROL PROCESSES TO DATA REQUIREMENTS (Guidance for paragraph 3.2 Identification-Definition).

As program/project data are identified and defined, it is recommended that the control process for each data requirement also be identified in the DRL. For contractor-produced data, MWI 7120.2 defines Types 1–5 that dictate the control process and authorization that is required by NASA. For NASA-produced data, MWI 7120.2 Appendix Z also contains recommended data control definitions for NASA-produced data that are consistent with the CM, Approval, and Acceptance-Receipt (for OPR-controlled data) control processes described in paragraphs 3.4.2 through 3.4.4. The planned control process should be added as a column in the DRL that is completed for each data requirement. See MWI 7120.2 Appendix Z for a sample DRL.

Z.4 CONTROL PROCESS PLANNING (Guidance for paragraph 3.4 Control)

Prior to implementing a control process, the following items should be identified or established:

Z.4.1 Data requirements per MWI 7120.2.

Z.4.2 Data preparation requirements.

Z.4.3 Document numbering system(s).

Z.4.4 Numbering logs and responsibility for number assignment.

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Z.4.5 Document format(s) required for submittal and archival (e.g., Word and/or Adobe portable document format (PDF)).

Z.4.6 Control processes for each data/document requirement.

Z.4.7 Approval authorities for each document or document type.

Z.4.8 Control Board(s) and board membership.

Z.4.9 Personnel assignments for all the roles in the control process (e.g., receipt, CO, CER, LSE, DM administrator, Secretariat, etc.).

Z.4.10 Time period for reviewing documentation.

Z.4.11 Master List Custodian(s) and Master List implementation methodology that address accessibility requirements and location.

Z.4.12 Repository/storage, filing, access, disposition, retention schedules, and records custodian(s) for each data/document requirement/record per MPR 1440.2.

Z.4.13 If an electronic system is used for the control process, the following items should be addressed:

Z.4.13.1 Ensure the selected electronic system has an approved IT Security Plan per MPR 2810.1 and has successfully completed the MSFC Operational Readiness Review (MORR) process per MPR 2800.4.

Z.4.13.2 Establish the program/project Control Boards/Approval Authorities and associated roles in the system.

Z.4.13.3 Grant appropriate access privileges to personnel who have been assigned roles in the control process.

Z.5 DATA CONTROL PROCESSES VERSUS DESIGN REVIEW PROCESS (Guidance for paragraph 3.4 Control.)

Data control processes are applied per document to apply version control and authorize data for use. Review of contractor data deliverables per document provides an assessment of whether or not the document met contract requirements. In contrast, the design review process (described in MPR 8060.3 and MSFC-HDBK-3173) is intended to provide a review of the complete data package that represents the requirements, preliminary design, or critical design, with reviewers looking across documents in the data package for requirements flow down, consistency, and adequacy of the technical approach. Reviewing individual documents through a document control process does not achieve the same objective as a design review. Since most data

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deliverables are due at Design Review milestones, there is a concern on how to mesh the contractual review process for Types 1, 2, and 3 data deliverables and the Design Review process of writing Review Item Discrepancies (RIDs) (or equivalent) without overloading personnel and requiring duplication of work. Therefore, the following process is recommended:

Z.5.1 Use the design review process for the general review of the data deliverables.

Z.5.2 Notify the contractor that NASA requires an extension on the Type 2 review period to match the Design Review time period.

Z.5.3 In parallel to the Design Review process, send Types 1 and 2 data only to the OPRD to ensure that the contractual review is met.

Z.5.4 When Types 1 and 2 data dispositions are made, reference and/or include any RIDs written during the Design Review that affect those documents to ensure a consolidated review.

For submittal of updated documents and RID closures, the program/project should determine whether RID closures should be submitted and approved before the updated document is returned as a Type 1, 2, or 3 data deliverable, or if the RID closures should be included in the next submittal of the data deliverable. If the RID closures are included in the data deliverable, the transmittal memorandum from the contractor should clearly state that the document addresses RID closures so the NASA side knows to attach the document as a RID closure and route through the RID closure process in addition to the normal data deliverable review process.

Z.6 DESCRIPTION OF A PROGRAM/PROJECT APPROVAL PROCESS (Guidance for paragraph 3.4.3 Control).

This section describes a control process for program/project approval of NASA data, external agreement data, or contractor Type 1 or 2 data deliverables. See figure 2 for the control process flow.

Z.6.1 Receipt. Upon receipt of the data, the receipt personnel record identifying information about the data for tracking and accounting purposes, perform a quality and format check, ensure the data is identified/filed as a program/project record, and determine routing options. If the quality and format check finds that the data does not meet NASA or contractual requirements, notification is provided to the originator for NASA data, or to the MSFC CO for contractual data (for transmittal to the Contractor). The process history record begins with receipt of the data. NOTE: Tracking and accounting records are updated and maintained throughout the approval process.

Z.6.2 Preliminary Review. During Preliminary Review, the data may be transmitted to a Center Export Representative (CER) to review the originator's recommended Export and Distribution Restrictions and confirm or change, as appropriate. For contractual data, the data may be transmitted to the CO/COTR for contractual review prior to distribution for evaluation. If the

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data is rejected, notification is provided to the originator for NASA data, or to the MSFC CO for contractual data (for transmittal to the Contractor).

Z.6.3 Prepare for Evaluation. The LSE and DM administrator determine the DPE, evaluators (mandatory and optional), and distribution list. The DM administrator distributes the data for evaluation.

Z.6.4 Evaluation. Each evaluator should review the data and record comments. The DPE consolidates comments from other evaluators, and then formulates a recommended disposition for the Approval Authority. The Approval Authority may range from a formally constituted control board to a project-designated individual (e.g., Project Manager, COTR, etc.)

Z.6.5 Decision. The Secretariat/DM administrator captures the final decision and actions for the Approval Authority. If the Approval Authority is a formally constituted board, the members concur or nonconcur and the Approval Authority makes the final decision of: “Approved,” “Approved with Changes,” “Disapproved-Resubmit,” “Disapproved,” or “Cancelled.”

Z.6.5.1 Approved. The data content is approved as written. Actions: For NASA-produced data, the originator is directed to update the approval date and submit for final approval. For contractor data, the contractor is directed by the CO/COTR to finalize and release the document and provide a copy of the released document to MSFC. When the updated document is received and verified, the data is posted to the appropriate program/project Master List.

Z.6.5.2 Approved with Changes. The data is approved with the specific changes detailed in the disposition documentation.

Actions: For NASA-produced data, the originator is directed to update the document with the authorized changes and submit for final approval. The contractor is directed by the CO/COTR to incorporate the approved changes, finalize and release the document, and provide a copy of the released document to MSFC. When the updated document is received and verified, the data is posted to the appropriate program/project Master List.

Z.6.5.3 Disapproved-Resubmit. The data is unacceptable and is disapproved with resubmittal required.

Actions: The Originator or Contractor updates/resubmits a new version that corrects the reasons for disapproval. For contractor data, a resubmittal timeframe should be specified in the CO’s letter. When received, the updated submittal is put back through the review process.

Z.6.5.4 Disapproved. The data is unacceptable and is disapproved. Actions: None.

Z.6.5.5 Cancelled. The data is cancelled and should no longer be utilized.

Actions: The data status is changed to Cancelled and it is removed from the Master List.

Z.6.6 Verification and Final Approval. For NASA-produced data, following an approved or approved with changes disposition, the originator implements the direction of the Approval Authority

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and submits the finalized document for the following final approval steps: verification that Approval Authority direction was implemented correctly, format and quality check, final approval signatures (if required), reflection of signatures in controlled electronic file (optional), and availability/posting of the controlled electronic file to the appropriate program/project Master List.

For contractor or external agreement data, the contractor resubmits data that was Approved or Approved with Changes after implementing the NASA direction. Upon receipt, the receiving personnel verify that the direction was implemented correctly in the document. If correct, the data is made available to the program/project Master List. If not correct, the data is returned to the originator for correction.

For all data processed through the approval process, the final record of the dispositioned data and the process records are filed by the records custodian.

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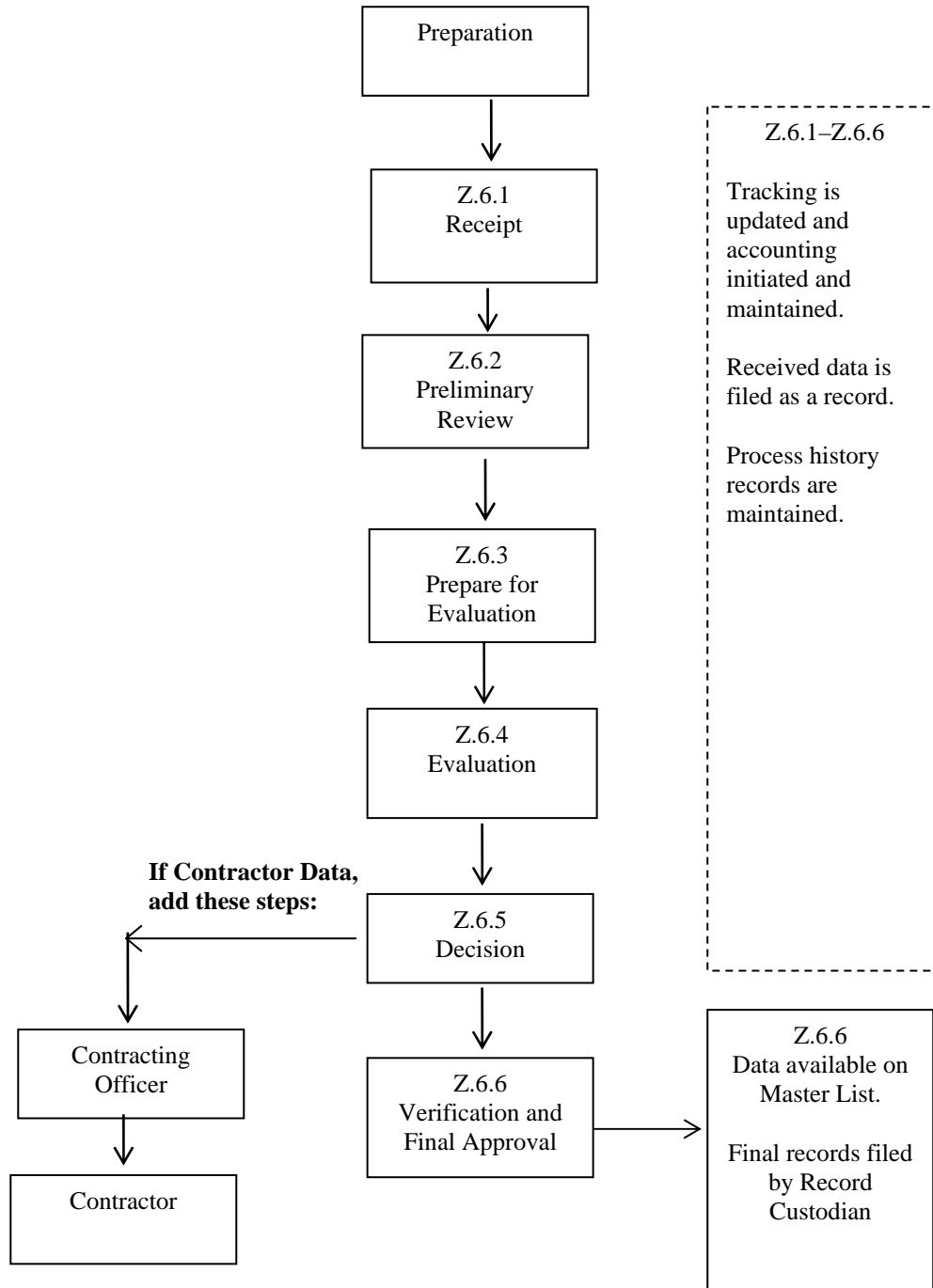


Figure 2. Example of Control Process Flow

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Z.7 DATA TRACKING AND ACCOUNTING (Guidance for paragraph 3.4.8, Data Tracking and Accounting)

A DRL is the start for the data requirement tracking process for both NASA and contractor-produced data. The DRL matrix format can be extended to include additional fields for status accounting as data is received, or a separate matrix can be developed. The recommended fields for the DRL are addressed in MWI 7120.2. For accounting of received data, it is recommended that the following data be captured: data review status (i.e., open, closed, or closed with action), document identification number, revision, title, DR number, receipt date, transmittal memorandum number and date, DPE, evaluation due date, disposition, disposition date, and disposition transmittal number and date (sent by CO/COTR for contract data).

Z.8 ACI DATA RESTRICTION ASSESSMENT (Guidance for paragraph 3.4.9, ACI Identification, Marking, and Safeguarding)

“The appropriate ACI marking is applied as data is prepared (see paragraph 3.3 Preparation), and MPR 1600.1 states that the originating organization or the procuring organization is responsible to assess the data restriction to ensure it is correct.” This assessment should be done upon data receipt to ensure that data is stored securely and disseminated appropriately. The implementation options for the program/project are:

Option 1) Accept the data restriction assigned by the data preparer and secure/distribute the data accordingly

Option 2) Designate a program/project representative to assess, upon data receipt, the data restriction assigned by the data preparer. If the data is marked incorrectly, return the data to the originator with instructions to alter the marking. If data is not marked and the recommended data restriction is incorrect, either return the data or designate the data with the new restriction within the electronic management system.

NOTE: The electronic file submitted by the originator is a record and should not be altered by NASA. It is highly preferred to return the data to the originator to change the data restriction as needed.

Option 3) Temporarily accept the data restriction assigned by the preparer and secure/distribute the data accordingly, and then verify the data restriction during the normal technical evaluation of the data.

Table 1 shows a summary of which options are recommended or not recommended for NASA-produced data versus Contractor-produced data.

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Table 1. ACI Assessment Options per Data Source		
	NASA-produced Data	Contractor-produced Data
Option 1	Preferred if OPRD has responsibility to confer with CER	Not Recommended
Option 2	Preferred	Preferred
Option 3	Acceptable	Acceptable

For NASA-produced data, if the program/project places responsibility on the OPRD to confer with a CER (as needed) to ensure the ACI marking is appropriate before submitting data to the Program/Project, then Option 1 is preferred. Option 2 is also preferred. Option 3 is acceptable and can also be utilized alone or in addition to Option 1. For contractor-produced data, Option 2 which provides a NASA assessment of the contractor data marking is preferred. Option 3 is acceptable. Option 1 is not recommended, but can be used if the program/project manager accepts the associated risks.

Guidance provided by the MSFC Export Representative, Security, and Legal clarifies the qualifications necessary for someone to serve as the program/project representative to assess data restrictions. If making export determinations, the qualified individual should be a CER who has completed the export control training. Only civil servants can be official CERs, though support contractors can provide a recommended assessment to a CER. When it becomes necessary to designate one person to assess different kinds of restrictions, the CER is the best choice. The CO and COTR should be involved in any assessments that involve contract Limited Rights Data (e.g., Proprietary, etc.).

Z.9 SECURE DATA STORAGE AND HANDLING IN AN ELECTRONIC SYSTEM (Guidance for paragraph 3.4.9, ACI Identification, Marking, and Safeguarding)

Figure 5 provides some elements to consider when entering data in a system, maintaining data access within the system, and transmitting data out of the system. The program/project and the electronic system developers/administrators need to determine the philosophy to be used to store data securely. First, the data restriction should be recorded in the metadata for each document (Metadata is the data that helps you search and retrieve data such as document number, title, etc.). Also, each user should be known by the system (i.e., username and password access) and metadata about that user should be known such as the user's country of citizenship/any representation of foreign countries and whether or not the user is NASA, a NASA support contractor, or a contractor (including the name of the contractor). Based on this type of information being identified for the document and the user, the user may be placed into a group and data access can be granted to that specific group. Some different options for assigning access are listed below.

- 1) Restrict system or area access to a controlled group (e.g., NASA and NASA support contractors within a program/project only) that can see everything filed in that area.

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- 2) Set group accesses per folder with controlled filing (requires the persons filing data to be knowledgeable about data restrictions and the access defined to specific folders).
- 3) Design the electronic system with rules that compare the data restriction to the group types that are allowed access to data with the assigned data restriction, so users cannot “see” or “access” data that their group is not allowed to see.

The following user groups are recommended, and it is preferred that these groups are further restricted per project: All Members, U.S Persons or U.S Citizens, NASA civil servants, NASA support contractors, X Country Foreign Nationals, and X Contractors.

Table 2 includes guidance on the above groups that may be granted access to data with certain ACI data restrictions. This guidance was derived after meetings with MSFC security, legal, and export control representatives. ACI requirements state that dissemination of ACI should be limited to those with a need to know as part of Government business. Therefore, this guidance is based on the fact that NASA civil servants and support contractors need access to program/project data to perform their jobs and can be “trusted” to guard data appropriately. However, the originator should determine if the NASA and NASA support contractor users in the system are to be “Trusted,” or if the originator only wants to grant access to specific individuals.

Table 2. Allowed Access Groups Based on ACI Categories	
Data Restriction Category (ACI)	Allowed Audience (within Project Members)
No Restriction	Everyone
Export Controlled <ul style="list-style-type: none"> • International Traffic in Arms Regulations (ITAR) • Export Administration Regulations (EAR) 	U.S. Persons (i.e., U.S. Citizens except U.S Citizens representing Foreign Countries; U.S. Person includes Foreign Nationals with Green Card.) NOTE: Though allowed by export definition of U.S. Person, projects may wish to implement clearance of Green Card holders through MSFC Security.
Other ACI – NASA Trusted May include: <ul style="list-style-type: none"> • Limited Rights Data-Trade Secrets (e.g., Proprietary/Privileged, Business/Company Confidential) • Small Business Innovative Research (SBIR) • Space Act • Patent • NASA Sensitive • Inter or Intra-Agency Memoranda or Letters 	NASA Civil Servants, NASA Support Contractors, Owing Organization

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Table 2. Allowed Access Groups Based on ACI Categories	
Data Restriction Category (ACI)	Allowed Audience (within Project Members)
Other ACI – Originator List May include: <ul style="list-style-type: none"> • Limited Rights Data-Trade Secrets (e.g., Proprietary/Privileged, Business/Company Confidential, etc.) • Small Business Innovative Research (SBIR) • Space Act • Patent • NASA Sensitive • Inter or Intra-Agency Memoranda or Letters • Internal Personnel Rules/Practices • Investigative Records • Financial Institution Information • Geological/ Geophysical Information • Personnel, Medical, and Similar Files; 	Limited to list by originator

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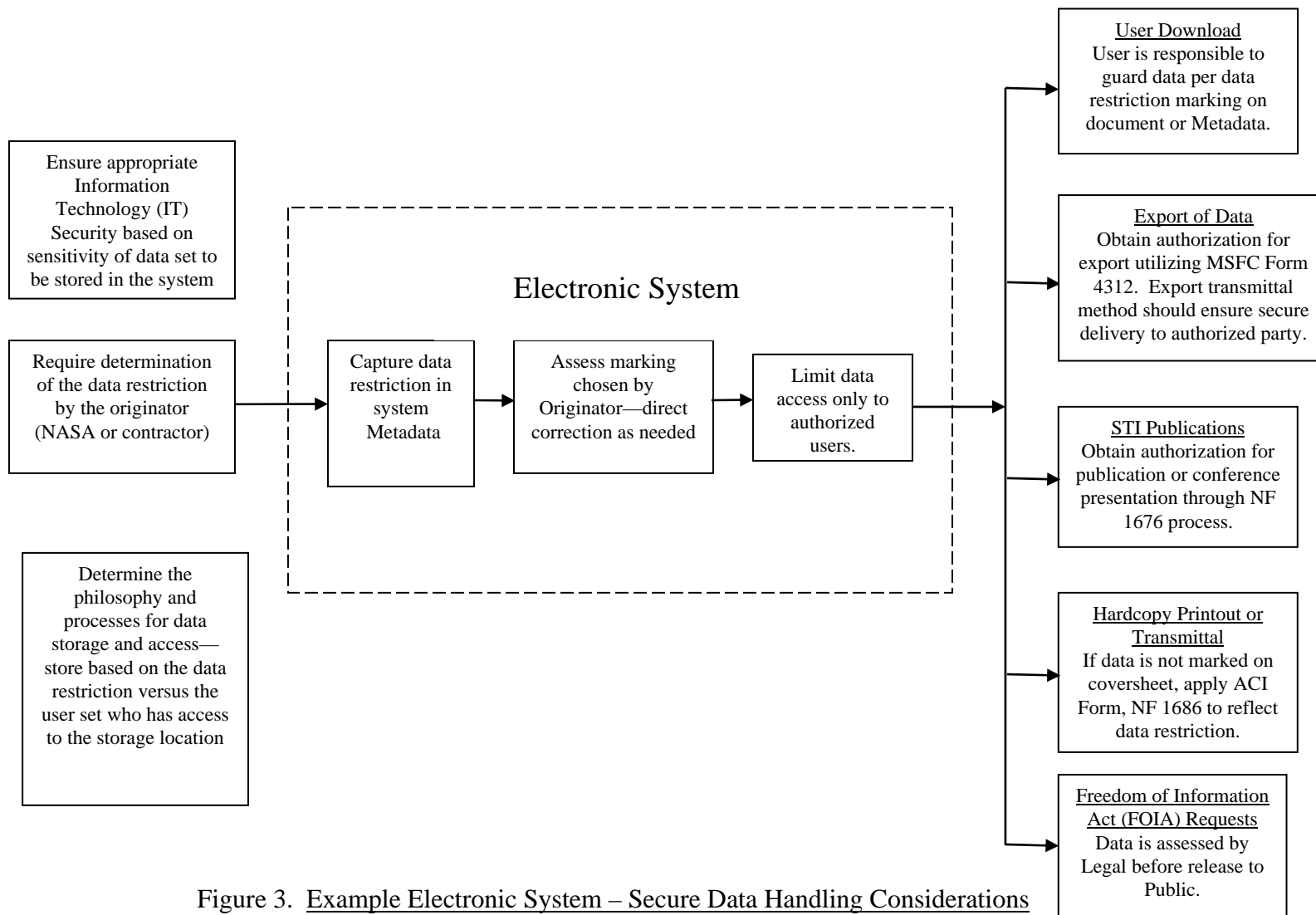


Figure 3. Example Electronic System – Secure Data Handling Considerations